

Competition Corner: Titration Evidence

g10_u05_w19

Use only supplied data; distinguish stoichiometry, endpoint observation, and mechanism claims.

1. A 30.00 mL acid sample reaches a 1:1 equivalence model at 18.60 mL of 0.1500 M base. Find acid moles and concentration.
2. An indicator endpoint is 0.15 mL before equivalence. Calculate percent difference if equivalence is 20.00 mL.
3. For $\text{H}_2\text{A} + 2\text{OH}^- \rightarrow \text{A}^{2-} + 2\text{H}_2\text{O}$, explain how a 1:1 titration formula fails.
4. Critique: “Endpoint and equivalence always mean the same thing.”
5. Design a data-only check for whether a claimed equivalence volume is plausible.